

DC-135/14-PM-Yb

Single-mode PM double-clad Yb fiber

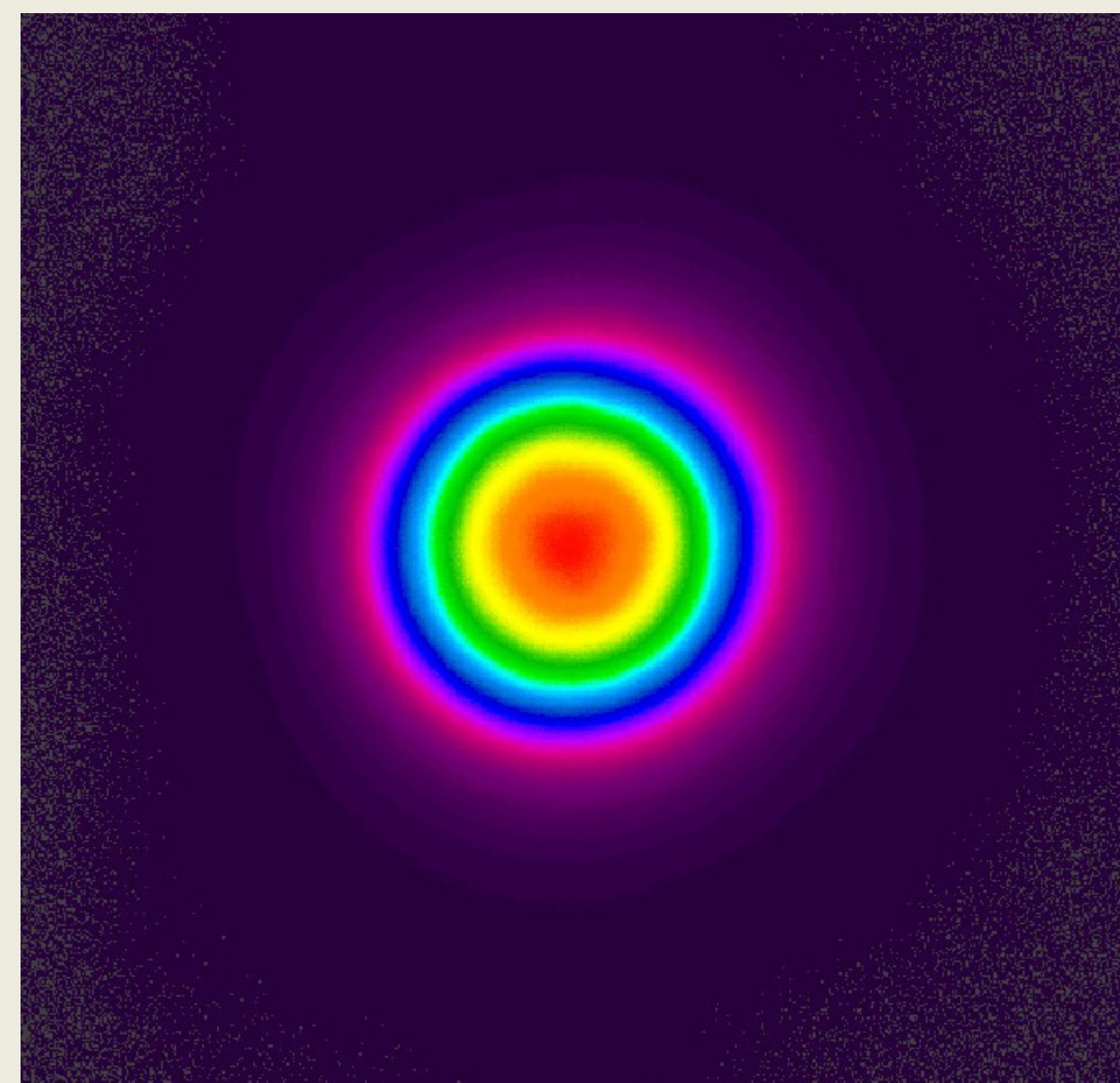
Large area, single-mode gain fiber

Ideal for pulsed fiber amplifiers

The DC-135/14-PM-Yb is a truly single-mode, all-solid-core step-index gain fiber.

Based on a unique refractive index control, the 14 μm polarization-maintaining core delivers diffraction-limited output in a single mode covering the entire ytterbium emission bandwidth. The mode quality is stable over time and independent of coiling.

Typical near field intensity profile



High reliability and a large numerical aperture

Multi-mode pump light is guided by our proven airclad technology, ensuring high reliability, high damage threshold, and a large numerical aperture. The large numerical aperture relaxes the tolerances on coupling optics.

The fiber is spliceable to commercially available pump/signal combiners. The fiber can be used in combination with our passive single-mode, single-clad SC-250/14-PM-Ge fiber.

Features

- Truly single-mode
- Large 15 μm mode diameter
- Solid step-index
- Polarization maintaining
- High NA pump cladding
- High pump absorption
- Mode-matching with our passive single-clad fiber: SC-250/14-PM-Ge

DC-135/14-PM-Yb

The single-mode advantages

Our single-mode fibers offer several advantages compared to standard multi-mode large area fibers:

- Excellent output stability**
- Outstanding beam quality**
- No need for tight coiling**
- No coiling-induced mode area compression**

Specifications

DC-135/14-PM-Yb

Optical

| Signal core | |
|--|-------------------------|
| Mode properties | Single-mode |
| Cut-off [nm] | ≤ 1000 |
| Beam quality, typical @ 1064 nm | $M^2 < 1.2$ |
| Mode-field diameter, $1/e^2$ @ 1064 nm [μm] | 15 ± 1 |
| Multi-mode pump core | |
| Numerical aperture @ 950 nm | ≥ 0.5 |
| Pump absorption @ 915 nm [dB/m] | 2.30 ± 0.35 |
| Pump absorption @ 976 nm, typical [dB/m] | ≈ 7 |
| Polarization parameters | |
| Birefringence Δn @ 1100 nm | $\geq 1 \times 10^{-4}$ |

Physical

| | |
|---|---------------------------|
| Signal core diameter [μm] | ≈ 14 |
| Pump cladding diameter [μm] | 135 ± 3 |
| Outer cladding diameter [μm] | 275 ± 8 |
| Coating diameter [μm] | 360 ± 15 |
| Coating material, single-layer | High-temperature acrylate |
| Minimum bending diameter [cm] | 18 |

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.



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